

**Notice of Allowability**

Application No.

10/789,974

Examiner

Daniel P. Stephenson

Applicant(s)

CARLSON, FRANCIS M.

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 12/28/06 and the interview of 2/2/07.
2. ☒ The allowed claim(s) is/are 1-5, 8-15, 27-61, 71-74, 84-89, 99-106, 113, 116, 120-123, 145-147, 152, 153, 173-263, 266, 267 and 269-288.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 12/28/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## EXAMINER'S AMENDMENT

### *Election/Restrictions*

1. Claim 1 is allowable. The restriction requirement between species, as set forth in the Office action mailed on 6/2/06, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claims 14,28-35,86-89,101-103 and 120, directed to determining gas-water ratio are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim.

In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

### *Examiner's Amendment*

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Luke Santangelo on 2/2/07.

The application has been amended as follows:

In the claims:

Claims 264, 265, 268, 289 and 290 have been cancelled.

In claim 86, line 3, the terms "characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic" have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 88, line 3, the terms "characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic" have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 99, line 3, the terms "characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic" have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 101, line 3, the terms "characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic" have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 102, line 3, the terms "characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic" have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 104, line 3, the terms “characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic” have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 152, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 153, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 174, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 175, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 180, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 181, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 182, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 183, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 184, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

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In claim 185, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 186, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 187, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 188, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 189, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 190, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 197, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 198, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 199, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 201, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 202, line 1, the term "evaluating" has been changed to --calculating a production characteristic for--.

In claim 203, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 204, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 205, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 206, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 207, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 208, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 209, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 210, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 212, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 213, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 214, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

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In claim 215, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 216, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 219, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 220, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 221, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 222, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 223, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 224, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 225, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 226, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 227, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

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In claim 231, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 231, line 2, the terms “wherein the said step of characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic” have been changed to --further comprising the step of calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 232, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 232, line 2, the terms “wherein the said step of characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic” have been changed to --further comprising the step of calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 233, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 234, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 235, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 236, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 237, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.



In claim 237, line 2, the terms “characterizing said coalbed methane reservoir based upon said inductively quantified methane content characteristic” have been changed to --calculating an economic production characteristic for said coalbed methane reservoir--.

In claim 238, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 239, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 240, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 242, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 243, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 244, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 245, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 246, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 247, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 248, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 249, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 250, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 251, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 252, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 253, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 254, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 255, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 256, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 257, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 258, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 259, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 260, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 261, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 262, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 263, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 268, line 1, the term “evaluating” has been changed to --calculating a production characteristic for--.

In claim 269, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 270, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 271, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 272, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 273, line 1, the terms “A method of calculating a production characteristic for an undersaturated coalbed methane reservoir” have been changed to --A dynamic method of surface sampling subsurface formation water to quantify a methane content value of the formation--.

In claim 274, line 1, the terms “A method of calculating a production characteristic for an undersaturated coalbed methane reservoir” have been changed to --A dynamic method of surface sampling subsurface formation water to quantify a methane content value of the formation--.

In claim 275, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 276, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 277, line 1, the terms “A method of calculating a production characteristic for an undersaturated coalbed methane reservoir” have been changed to --A dynamic method of surface sampling subsurface formation water to quantify a methane content value of the formation--.

In claim 278, line 1, the terms “A method of calculating a production characteristic for an undersaturated coalbed methane reservoir” have been changed to --A dynamic method of surface sampling subsurface formation water to quantify a methane content value of the formation--.

In claim 279, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 280, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 281, line 1, the terms “formation water” have been changed to --formation water to quantify a methane content value of the formation--.

In claim 282, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 283, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 284, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 285, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 286, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 287, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

In claim 288, line 1, the terms "formation water" have been changed to --formation water to quantify a methane content value of the formation--.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P. Stephenson whose telephone number is (571) 272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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